BMNR 344.
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Hopk. U. S. No. 13398.

Aphis abietina Walk.
on Sitka Spruce- Knappa, Oregon.

J. M. Miller, Coll. (See letter Oct 19/18)

Compiled by J. Kotinsky.

The first published record of the occurrence of this insect in North America appeared in the Proc. B.C. Ent. Soc. No. 5, N.S., Jan. 1915, pp. 84-85, where description and figures are given by H. F. Wilson, the author. It was first noticed by Treherne in May 1914 on spruce in Stanley Park, Vancouver, B.C. where, by June 1, it had caused the falling of all of the old needles. Mr. Treherne is there quoted as stating that "this insect is as serious, if not more serious than any other insect attacking spruce in the forest lands along the B.C. coast at the present time."

The species evidently has an alternate host, but the identity of this plant is still a mystery.

It is next referred to by R. N. Chrystal in the Rep't. Dom. Ent. for 1916, p. 43, where Treherne is stated to have "reported that the apterous females had begun reproduction early in March and that the yellowing of the affected needles was very marked. By the 9th of April the first winged forms left the spruce and they continued to migrate until well on towards the end of May". The effort to locate the secondary host plant was unsuccessful. Serious damage was done in the Beacon Hill Park at Vancouver, "several large trees being beyond the hope of recovery".

The most complete account of this insect is given by Theobald under

the title: "Notes on the Green Spruce Aphis (Aphis abietina Walk.)" in Rev. Appl. Biol., Vol. I, No. 1, May 1914, pp. 22-36, figs. 1-10.

The author states that: "it is of erratic appearance. Districts in which it is quite common one year may suddenly become quite free from it. Then after a lapse of time it may occur again in quantity. The only years in which actual damage has been noticed, however, are 1846 and 1913." This applies to the British Isles. Von der Goot records it from Holland in 1913. The indications are therefore that it is probably a holarctic species.

As above indicated, it is known to occur on spruce only, Picea Sitchensis, pungens, and engelmanni suffering from it most, but it was found also on P. excelsa, nigra, alba, gigantea, rubra, morinda, orientalis, monstrosa, omorica, Kosteriana and glehire. Theobald says "its normal food plant is probably Picea excelsa". Gillander (Forest Entomology (British)) 1908, p. 34) says: "During the winter months the apterous females of this species, which give rise to the summer's brood, may be found amongst the baves of spruce tree".

In discussing the life history of the insect, Theobald says: "The apterous aphides usually occur along the needles, a single one settling on each needle and giving rise to a colony of young, which later spread out and do the same; where the apterous mother feeds a yellow spot occurs, sometimes with a reddish tinge and which later darkens; two or three of these spots in old trees seem sufficient to kill the needle, whilst in young ones they remain, the needles but seldom completely dying. The aphides also wander about on the shoots and remain and feed there.

They do not seem to attack the new growth to any extent in summer, but in autumn and winter a few may be found on the young growth.

In October and November I counted about six apterae to every foot of branch examined and a few small young with them. The insect is very sluggish both when in the apterous and alate stages, but if a branch is cut off they become active in a few hours and wander away from the needles".